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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,181

01/21/2004

Nima Mokhlesi

SAND-01021US0

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09/19/2006

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EXAMINER

HOANG, HUAN

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental
Notice of Allowability**

Application No.

10/762,181

Examiner

Huan Hoang

Applicant(s)

MOKHLESI ET AL.

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the telephone interview with Mr. Burt Magen on 08/24/06.
2. ☒ The allowed claim(s) is/are 1-13, 15-24, 26-42, 52 and 53.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20060906.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



**HUAN HOANG
PRIMARY EXAMINER**

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the claims:

Cancel claims 14, 25, 43 and 44.

Claim 1: A non-volatile storage device, comprising:

source/drain regions;

a channel region between said source/drain regions;

a floating gate;

a control gate;

a first dielectric region between said channel region and said floating gate, said first dielectric region includes a high-K material; and

a second dielectric region between said floating gate and said control gate, wherein electrons are transferred to said floating gate from said control gate via said second dielectric region.

Claim 6: A non-volatile storage device, comprising:

- source/drain regions;

- a channel region between said source/drain regions;

- a floating gate;

- a control gate;

- a first dielectric region between said channel region and said floating gate,

said first dielectric region includes a high-K material; and

- a second dielectric region between said floating gate and said control gate, wherein electrons are transferred to said floating gate from said control gate via said second dielectric region; said floating gate, said second dielectric and said control gate form a stack;

- a first spacer at one side of said stack; and

- a second spacer at a second side of said stack.

Claim 13: A non-volatile storage device according to claim 1, wherein:

- said electrons are transferred to said floating gate from said control gate using Fowler-Nordheim tunneling.

Claim 15: A non-volatile storage device according to claim 1, wherein:

- said electrons are transferred to said floating gate from said control gate during erasing of said non-volatile storage device.

Claim 20: A non-volatile storage device, comprising:

source/drain regions;

a channel region between said source/drain regions;

a floating gate;

a control gate;

a first dielectric region between said channel region and said floating gate,

said first dielectric region includes a high-K material; and

a second dielectric region between said floating gate and said control

gate, said second dielectric provides for electron tunneling to said floating gate from said control gate.

Claim 29: A non-volatile storage device, comprising:

source/drain regions;

a channel region between said source/drain regions;

a floating gate;

a control gate;

means for partially electrically isolating said floating gate from said channel region; and

means for providing a dielectric region between said floating gate and said control gate and for transferring electrons to said floating gate from said control gate.

Claim 30: A non-volatile storage system, comprising:

a set of non-volatile storage elements, each of said non-volatile storage elements includes a channel, a floating gate and a control gate, said floating gate being separated from said channel by a first dielectric region that includes a high K-material, said floating gate being separated from said control gate by a second dielectric region; and

a control circuit for programming, erasing and reading said non-volatile storage elements, said control circuit causes electrons to be transferred to said floating gates from said control gates via said second dielectric.

Claim 39: A method of using a non-volatile storage device, comprising:

at least partially isolating a floating gate from a channel using a high-K material; said channel is between source/drain regions, said floating gate is separated from a control gate; and

erasing said non-volatile storage device by transferring electrons to said floating gate from said control gate.

Claim 41: A method according to claim 39, further comprising:

programming, including transferring electrons from said floating gate to said control gate.

Claim 42: A method according to claim 39, further comprising:

programming, including tunneling electrons from said floating gate to said control gate.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan Hoang whose telephone number is (571) 272-1779. The examiner can normally be reached on Tues-Fri 8:30AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Huan Hoang
Primary Examiner
Art Unit 2827

HH
9/6/06